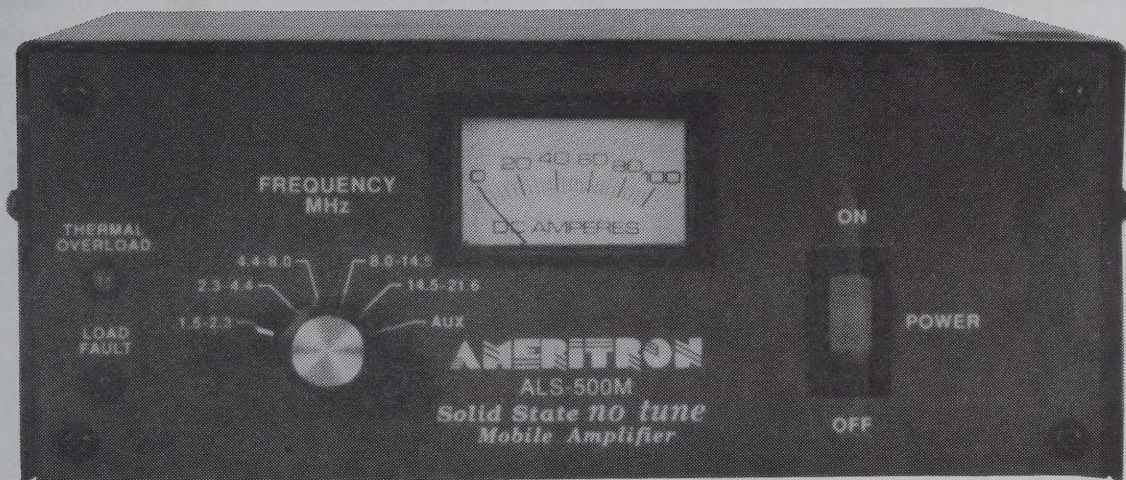


AMERITRON ALS-500M

600 WATT *NO TUNE*

SOLID STATE MOBILE AMPLIFIER

INSTRUCTION MANUAL



The Ameritron ALS-500M is a 500 watt output solid state linear amplifier using rugged, conservatively rated bipolar RF devices in the power output section. The ALS-500M operates at full power with continuous frequency coverage from 1.5 through 21.6 MHz. This amplifier requires no tuning adjustments. Broad band 5 pole filters provide output harmonic suppression in excess of 60 dB for all frequencies above 8 MHz, and more than 70 dB on all TV channels. Export modifications are available to extend operation to 30 MHz with a copy of a valid amateur license.

The ALS-500M uses two pairs of 2SC2879 linear transistors operating at 13.8 volts in a push-pull output configuration. High quality RF components combine with load fault sensing, temperature protection, and one switch frequency selection to make this one of the simplest and easiest to operate amplifiers available today. The ALS-500M operates on 13.8 Vdc electrical systems and draws a peak current of 80 amperes at full output.

WARNING: *THIS AMPLIFIER IS DESIGNED FOR USE IN VEHICLES WITH NEGATIVE GROUND 12 VOLT ELECTRICAL SYSTEMS ONLY.*

AMERITRON

116 Willow Road
Starkville, MS 39759

ALS-500M FEATURES

1. **Rugged devices.**

The ALS-500M uses four rugged linear RF power devices.

2. **Fast warm-up time.**

The ALS-500M has no vacuum tubes to warm-up.

3. **No tune operation.**

Tuning adjustments are not necessary. A simple one knob selector switch permits operation on frequencies between 1.5 and 21.6 MHz.

4. **Load Fault Protection**

The PA load impedance is monitored and the amplifier is bypassed if the band switch setting or the external load is incorrect.

5. **Current meter.**

The ALS-500M has a DC current meter to monitor collector current.

6. **Off/On switch.**

This switch allows the amplifier to be by-passed for "barefoot" operation without disconnecting the high current leads.

7. **Remote Off/On control.**

A separate connection on the power connector allows low current control of the amplifier Off/On function for remote mounting.

8. **Compact size.**

The ALS-500M weighs only seven pounds and measures 3 1/2"H x 9"W x 15"D .

GENERAL INFORMATION

Load Fault Circuit

The ALS-500M features a load fault trip circuit that bypasses the amplifier if the amplifier frequency switch is set to a lower frequency range than the exciter or if the load reflected power exceeds approximately 100 watts. This circuit virtually eliminates the danger of component failures due to operating errors.

The Combiner circuit board near the PA contains the components that sense the reflected power at the input of the low-pass filters used in the output circuit. Selecting a filter that has a cut off frequency below the operating frequency or operating into loads with reflected power levels that exceed approximately 100 watts will trip the overload and bypass the amplifier. SCR (Q5) on the Bias board keeps the amplifier "locked out" until the **POWER (ON/OFF)** switch is cycled off and on.

Bias Control Circuits

The Bias board contains the temperature and bias control circuitry. Temperature is sensed by diodes D1 and D2 on the PA module. The voltage drop across the diodes drops as the temperature rises. This drop in voltage causes IC1c/d to reduce the forward bias supplied by Q2/3. Diodes D1/2 on the bias board limit the available bias if a failure in the bias circuit occurs.

IC1a compares the voltage from the Power Amplifier temperature diodes to the reference voltage from the temperature sensitivity control R28. If the temperature becomes too high (voltage too low) IC1a switches high and Q4 turns the cooling fan on. If the temperature continues to increase IC1b turns off and the voltage for the transmit relay and the bias voltage is removed. The **THERMAL OVERLOAD** LED is illuminated if the output of IC1b is off. This circuit automatically resets when the temperature reaches safe limits.

If a load fault occurs the voltage applied to SCR Q5 places it in conduction. This disables the relay line until the **OFF/ON** switch power is cycled off and on. The **LOAD FAULT** LED on the front panel is also illuminated when the SCR is latched on.

Drive Power

The ALS-500M requires less than 100 watts of drive to produce full output power. Exceeding 100 watts of drive for long periods of time may cause component failures. Exceeding 100 watts of drive for short periods will cause distortion and increase the bandwidth of the transmitted signal.

SWR Considerations

SWR (Standing Wave Ratio) causes higher voltages and/or currents to appear at the output connector of the amplifier. This problem occurs with all amplifiers regardless of whether tubes or semiconductors are used in the output stage.

The devices used in the ALS-500M have very good overload tolerance. The low pass output network in the ALS-500M not extremely sensitive to load impedance changes. This makes the ALS-500M less sensitive to frequency and SWR changes than many other similar amplifiers. The multiple



116 Willow Road
Starkville, MS 39762

Limited Warranty

Ameritron warrants to the original purchaser that this product shall be free from defects in material (except tubes and RF output transistors) or workmanship for one year from the date of original purchase.

During the warranty period, Ameritron or an authorized Ameritron service facility will provide free of charge both parts (except tubes and RF output transistors) and labor necessary to correct defects in material or workmanship.

To obtain such warranty service, the original purchaser must:

- (1) Complete and send in the Warranty Registration Card.
- (2) Notify Ameritron or its nearest authorized service facility, as soon as possible after discovery of a possible defect, of:
 - (a) The model number and serial number, if any;
 - (b) The identity of the seller and the approximate date of purchase;
 - (c) A detailed description of the problem, including details on the equipment.
- (3) Deliver the product to the Ameritron or the nearest authorized service facility, or ship the same in its original container or equivalent, fully insured and shipping charges prepaid.

Correct maintenance, repair and use are important to obtain proper performance from this product. Therefore, carefully read the Instruction Manual. This warranty does not apply to any defect that Ameritron determines is due to:

- (1) Improper maintenance or repair, including the installation of parts or accessories that do not conform to the quality and specifications of the original parts.
- (2) Misuse, abuse, neglect or improper installation.
- (3) Accidental or intentional damage.

All implied warranties, if any, terminate one (1) year from the date of the original purchase.

The foregoing constitutes Ameritron's entire obligation with respect to this product, and the original purchaser and any user or owner shall have no remedy and no claim for incidental or consequential damages. Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damage, so the above limitation and exclusion may not apply to you.

This warranty gives specific legal rights and you may also have other rights which vary from state to state.

PLEASE RECORD THIS INFORMATION:

Model _____ Serial No. _____

Date of Purchase _____

Purchased From _____

Warranty Card Mailed On _____



116 Willow Road
Starkville, MS 39762

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This warranty gives specific legal rights and you may also have other rights which vary from state to state.

PLEASE RECORD THIS INFORMATION:

Model ALS500M Serial No. 11162

Date of Purchase _____

Purchased From _____

Warranty Card Mailed On _____

ALS-600 ALS-500M 10 Meter Modification

This kit contains the ten meter board, four machine screws and this instruction sheet.

First remove all power from the unit and unplug all cords including the power connector.

Remove the screws from the cover and place it to the side.

Locate the output filter circuit board, ALS600FB. this board contains the bandswitches. There are 4 spacers on the top, left side of the board. In the ALS-500M these spacers are tall and on the ALS-600 these spacers are short. The machine screws fit through four holes in the ten meter board into these spacers. Connection takes place through these spacers requiring no other wiring.

For the ALS-600

Mount the 10 meter board *away from* the output filter board with the coils and caps facing up. Snug the machine screws against the board to ensure good connection.

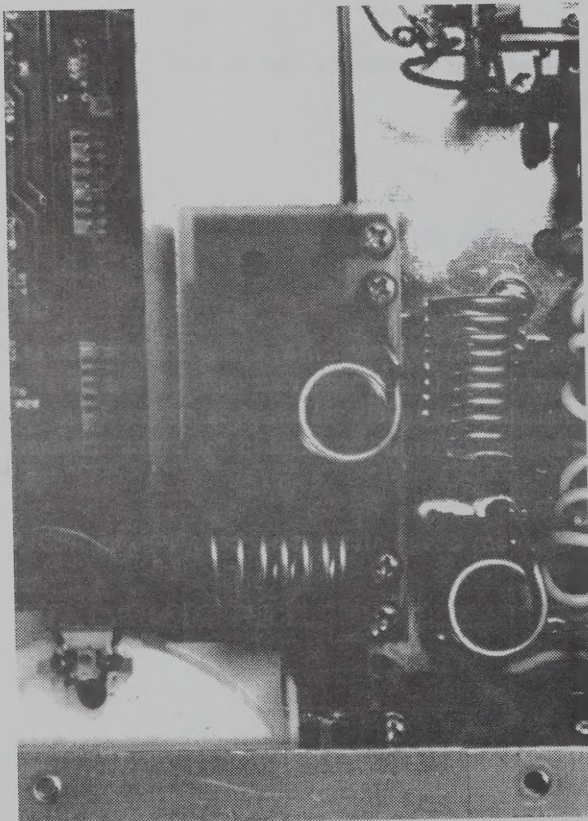
For the ALS-500M

Mount the 10 meter board *over* the output filter board with the coils and caps facing up. Snug the machine screws against the board to ensure good connection.

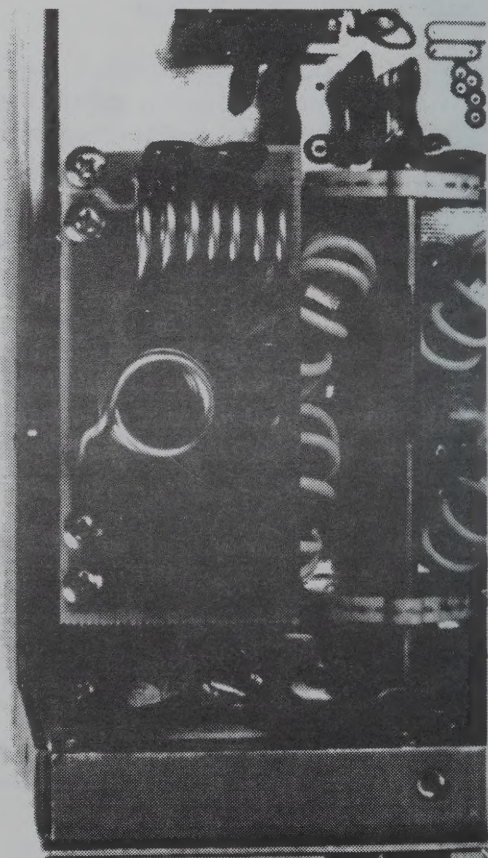
After checking for loose parts inside your amplifier, replace the cover.

After installing the modification you may use the amplifier from 21.6 to 30 MHz in the "AUX" position. Switch the band switch on the front of the unit to the "AUX" position to transmit.

ALS-600



ALS-500M



11-16-94

Sold ONE AMERITRON ALS-500^M
HF Amplifier SER. #11162

TO DANIEL ARNEY / KN6DI,
For \$625.⁰⁰. Amp is under
FACTORY WARRANTY.

SIGNED, Larry Daynowski
AJZW

5332 REPECHO DR. #Z-201
SAN DIEGO, CA 92124

TELE: (619) 576-7492.

section output network and push-pull output configuration used in the ALS-500M also offers excellent harmonic suppression.

The only danger presented by a high SWR is that the current and power dissipation in the output devices may exceed safe limits. This can result in heat damage and failure of the devices. If the SWR exceeds 2:1 the power level should be reduced until the reflected power is 60 watts or less. At approximately 80 watts of reflected power the internal safety circuitry will disable the amplifier.

Periodic Maintenance

The lack of extremely high voltages eliminates the chance of dirt and dust causing high voltage arcing in this unit. The only requirement for periodic maintenance is to monitor the amount of dirt and dust in the amplifier. Air can be used to blow the dust out of the equipment whenever there is a noticeable accumulation of dust that may affect cooling.

A soft bristled brush and a small amount of alcohol can be used to clean stubborn dust from the fan screen or the other components. Be careful not to get any cleaning compounds on the relay contacts or the switches. Ameritron has a technical information sheet on relay and switch maintenance.

Technical Assistance

Ameritron has started a collection of technical information sheets that provide assistance with the most common operational problems. Technical assistance is also available by calling (601) 323-8211 during our normal business hours (8:00 to 4:30 Central Time on weekdays) for questions that are not answered by the technical information sheets. We are happy to provide personal assistance if you need more detailed help.

Please have the following information available so that we can accurately assist you with any problems:

1. The model and serial number the unit.
2. The date of purchase and the dealer.
3. A brief description of the station equipment and antenna system.
4. A complete description of the problem along with any abnormal meter readings.

Written assistance is also available. Due to time delays in processing mail, please allow at least three weeks for a written reply.

AMERITRON
116 Willow Road
Starkville, Ms 39759
Telephone: (601) 323-8211
Fax: (601) 323-6551

Export Modifications

A simple modification will allow operation on frequencies above 22 MHz. A parts kit to make this modification is available by sending a written request for an 19-10600 export modification kit along with a copy of your valid amateur license to the Ameritron. There is a charge for this kit. Export models are shipped with this modification installed and have an "X" following the serial number.

INSTALLATION

Location

Do not locate this amplifier in excessively warm locations or near heater vents or unventilated areas with temperatures that exceed 110 degrees Fahrenheit. Be sure that air can circulate freely around and through the amplifier cabinet. Do not obstruct the air inlet at the right front side of the amplifier or the outlet air holes on the lower left side of the amplifier.

The best location for this amplifier is one that allows the meter to be easily read and the controls accessed during operation. The length of each 13.8 volt high current cable is critical. Every consideration should be given to keeping the lead lengths to the battery as short as practical.

The lengths of the remaining power and control cables are not critical. The relay control lead can be made from any good quality two wire cable. The low level audio type cables sold for stereo and VCR use are ideal for the relay connection. The RF cables should be kept as short as practical.

Power Requirements

This amplifier requires 13.8 volts DC at 80 amperes peak (split between two leads that can up to carry 40 amperes) or 40 amperes average along with 12-15 volts positive at low current (less than 4 amperes) for the control and bias circuits. The high current supply leads must be kept as short as possible. The following list gives the approximate peak voltage drop in volts per foot at full power for this amplifier:

AWG Size	Voltage Drop	Maximum Length For Full Power Out
10 ga.	0.04 V/ft	5 ft.
8 ga.	0.025 V/ft	8 ft.
6 ga.	0.015 V/ft	12 ft.
4 ga.	0.01 V/ft	20 ft.

For best performance the voltage drop in the high current supply wires should be limited to 0.2 volt maximum. Refer to the Interconnections section for information on the wiring and fuse requirements of this amplifier.

Auxiliary Battery Installation

Avoid the use of an auxiliary storage battery. Ameritron does not assume any liability concerning the battery installation if an auxiliary battery is absolutely necessary. The individual installation is left entirely up to the installer. The following suggestions will increase the safety of the installation.

The positive lead that connects the auxiliary battery to the main battery should be fused at both ends with automotive type fuse links rated at 75 to 100 amperes. The positive power cable that connects the batteries should be number 6 AWG automotive type cable. The negative return can be made through the chassis of the vehicle.

The battery should be securely mounted with in a well ventilated area. The hydrogen gas that forms

when the battery is charging can be explosive if trapped in a confined area above the battery.

The battery mounting must be secure and outside the passenger compartment of the vehicle. A poorly secured battery can also be a lethal projectile in a collision. A suitable battery box can be obtained from marine accessory stores.

The installation of a second battery increases the hazard of fire or explosion in an accident

GROUNDING

Unibody Vehicles

The amplifier ground connection should attach to a large stationary body panel of the vehicle. *Never* depend on a connection made to the dash board, doors, trunk or hood of a vehicle for grounding.

Use the heaviest and shortest connections possible. The best conductors for all ground connections are *densely* woven copper braiding or heavy stranded cable that is rated to safely carry 100 amperes. Multiple ground connection points are superior to a single ground connection.

The engine block of the vehicle is almost always poorly grounded to the body of the vehicle. Remember that the manufacturer of the vehicle calculated the size of the grounding conductors to only handle the normal accessory load of the vehicle. Improvements of the ground connection of the engine block to the body will reduce ignition noise and help prevent interference or damage to the sensitive control devices in modern vehicles.

Never ground the negative battery post of the battery directly to the vehicle frame.

The battery is almost always grounded directly to the engine block so that the high starter currents can not flow through the engine and drive line bearings if the ground lead from the block becomes loose or detached. To be sure that the high amplifier current does not flow through the driveline of the vehicle the body of the vehicle should be grounded to an engine accessory mounting bolt (such as an alternator mounting bracket bolt) or to the bolt on the engine where the battery is grounded.

Never install a ground on any bolts unless you are sure that they connect to the block and that the bolt does not have a critical mechanical function.

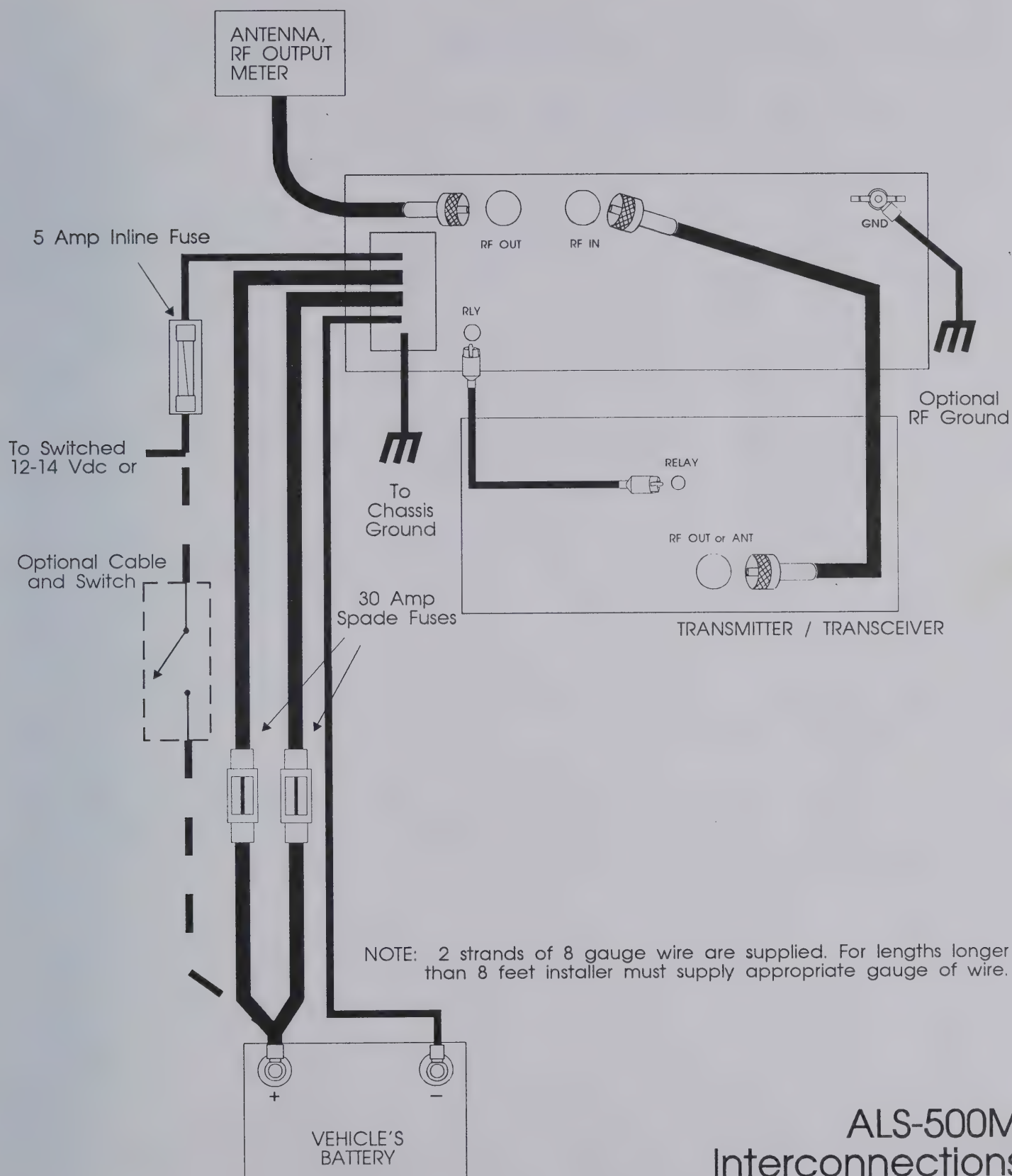
If a cylinder head bolt is removed and a soft lug or washer is placed under it the head gasket of the engine may fail and severely damage the engine. Bolts can NOT be properly torqued when soft materials are placed under their heads.

Frame-Type Vehicles

Vehicles with frames often have rubber body mounts that insulate the body from the frame. The vehicle designers do this to minimize the noise, vibration and harshness of the ride. The bodies of vehicles that use body mounts should have flexible strapping connected between the body and the frame at all four corners of the body. This includes the bed of pick up trucks.

INTERCONNECTIONS

1. The negative battery lead should be disconnected from the battery post.
2. The positive battery terminal should be disconnected from the positive battery post.
3. The long ground lead on the amplifier power plug should be connected to negative post of the battery.
4. The positive high current leads *must* be fused at the battery with two 35 ampere fuses. Each lead will carry 35 amperes peak during operation of the amplifier. Two, 35 ampere spade type fuses, PN 755-1730, fit into fuse holders on the pre-made cable supplied with this amplifier. If you run a longer heavier gauge cable the fuse holders, PN 755-2330, are available separately from Ameritron.
5. The low current power lead should be connected through a 5 ampere fuse, PN 755-1405, to either a switched electrical system lead for controlling the off-on function or to a permanent 12-14 volt positive dc source. If this lead is connected to a permanent voltage source the electrical system will have a constant but small current drain of a few milliamperes if the **POWER** switch is accidentally left in the ON position. A remote switch can be connected in series with this lead.
6. Connect the RF output (antenna) of the exciter to the **RF IN** (SO-239) of the ALS-500M with a good quality 50 ohm cable capable of handling 100 watts.
7. Connect the vehicle's antenna system to the **RF OUT** (SO-239) connector with 50 ohm coax that will safely carry 600 watts. This is where the RF output meter or antenna connects.
8. Use a shielded audio type cable with standard male phono (RCA) connectors to connect the **RLY** jack of the ALS-500M to the transceiver or transmitter normally open amplifier relay terminal. This connection has 12 volts open circuit and supplies less than 100 mA of current when pulled to ground. There is a back pulse canceling diode in the amplifier for exciter protection.
9. Connect the short ground lead from the multi-pin power connector to the vehicle's chassis.
10. Plug the female multi-pin power connector onto the multi-pin male connector on the rear of the ALS-500M chassis.
11. Reconnect the positive and negative battery leads to the battery.



ALS-500M
Interconnections

OPERATION

Follow these instructions in numerical order. Consult the manual for the exciter, if necessary. Be sure all electrical connections is properly wired. See the Installation instructions for wiring details.

1. Set the ALS-500M front panel **ON-OFF** to **OFF**.
2. Set the amplifier's frequency range switch to the same frequency as the exciter.
3. With the amplifier still **OFF** transmit into the antenna with the exciter. Measure the SWR with the transceiver's internal SWR indicator or with an external SWR indicator. ***Do not operate this amplifier at an SWR above 2:1 with more than 60 watts reflected.*** See the SWR Considerations section on page 2.
4. Place the amplifier in the **ON** position. The **DC AMPERES** meter should increase slightly and the relay should "click" when the exciter is keyed.
5. Transmit a carrier and observe the **DC AMPERES** meter. The current should be less than 80 amperes at full output. An external watt meter should indicate 400 watts or more with a steady carrier.

Full output levels of 400 watts CW should be obtained with drive levels of under 100 watts. Peak envelope output levels on SSB may reach as high as 600 watts depending on voice and exciter characteristics. The lowest IMD and splatter will be obtained if the amplifier is operated at an output level slightly below the maximum level obtainable.

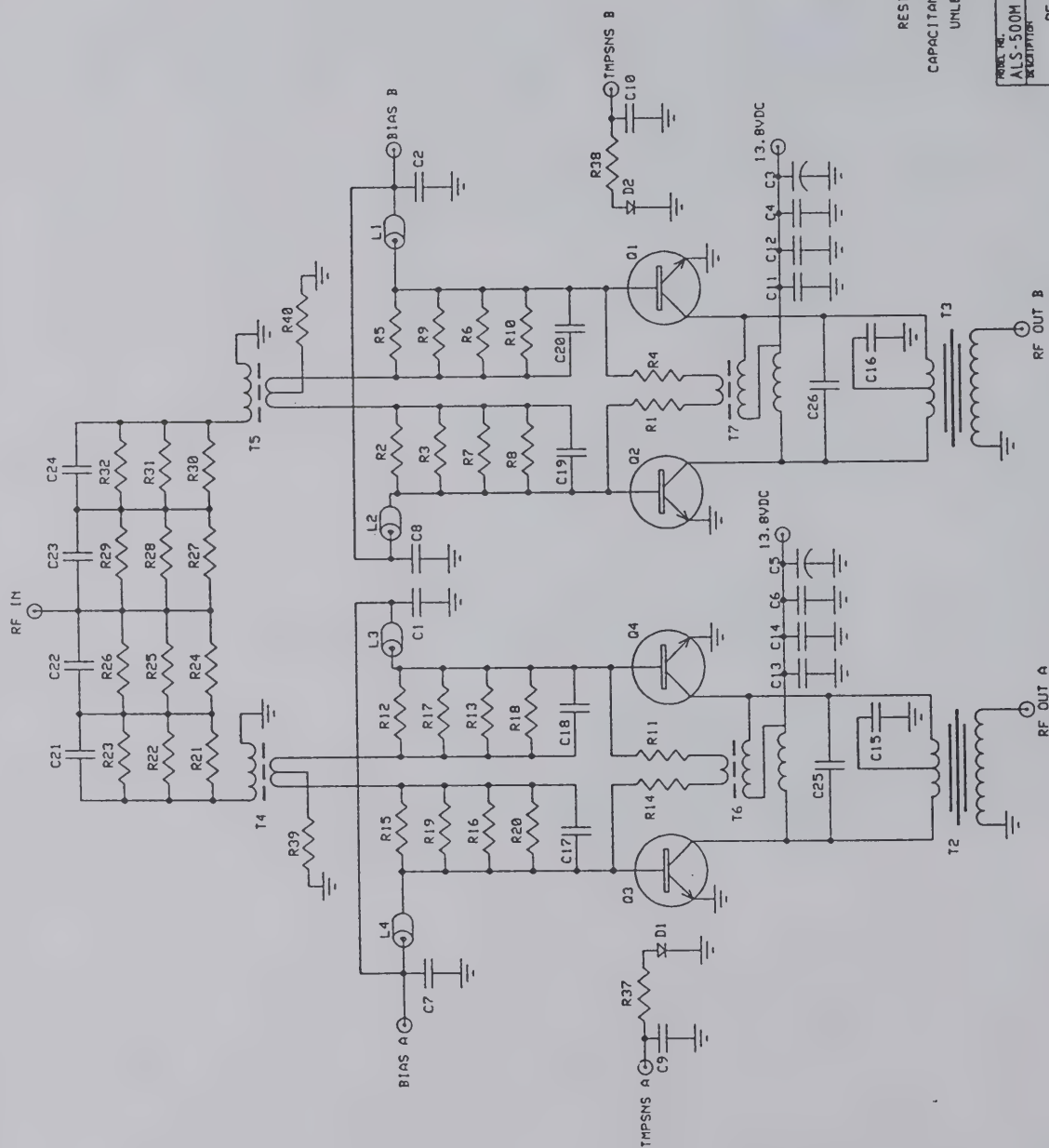
As the temperature rises the fan should start to run. If the temperature rises too far the **THERMAL OVERLOAD LED** will light and the amplifier will not operate. This feature automatically resets when the temperature reaches safe limits.

If the reflected power level is too high, the **FREQUENCY** selector is set to a cutoff frequency below the transmission frequency, or one PA section loses power the **LOAD FAULT LED** will light and the amplifier will not operate. The **OFF-ON** switch must be cycled off to reset the **LOAD FAULT** after the problem is corrected.

ALS-500M PARTS LIST

Power Amplifier Board Parts List

Designator	Description	Part Number
C25,26	Capacitor, DM19, 500v, 360 pF	208-5688-1
C27,28	Capacitor, SM19, 500v, 750 pF	208-5668
C37,38,39,40	Capacitor, DM19, 500v, 820 pF	208-5381
C1,8,11,12,13,14,15,16, 29,30,35,36,41,42,43,44	Capacitor, 50v, .33 uF	205-2233
C2,7,9,10,33,34	Capacitor, Ceramic Disc, .1 uF	200-0754
C3,5	Capacitor, Electrolytic, 25v, 100 uF	203-0564
C4,6	Capacitor, polyester, .15 uF	201-2215
C17,18,19,20	Capacitor, Ceramic Disc, 25v, .01 uF	203-0416
C21,24	Capacitor, SM15, 500v, 100pF	208-5174
C22,23	Capacitor, SM15, 500v, 150pF	208-5396
C31,32	Capacitor, Electrolytic, 25v, 10 uF	203-0654
D1,2	Diode, 1N4007	300-0266
J101	8 pin header	612-0108
L1,2,3,4	Ferrite Beads	412-1599
PCB	Power Amplifier PC Board	862-0500-2
Q1,2,3,4	Transistor, Power, 28C2879	305-2879
R1,4,11,14	Resistor, Metal Oxide, 3 watt, 6.8 ohm	103-0680
R2,3,5,6,7,8,9,10,12, 13,15,16,17,18,19,20	Resistor, 1/2 watt, 10 ohm	101-1100
R21-32	Resistor, Metal Oxide, 3 watt, 100 ohm	103-3100
R33,34,35,36	Resistor, Metal Oxide, 3 watt, 33 ohm	103-1330
R37,38	Resistor, 1/4 watt, 10 ohm	100-1100
R39,40	Resistor, 1/2 watt, 18 ohm	101-1180
T1	Not used	
T2,3	Output Transformer	11-0500-1
T4,5	Input Transformer	11-0500-2
T6,7	Feedback Transformer	11-0500-3
W101-111	Terminal PC Board Posts	720-2670

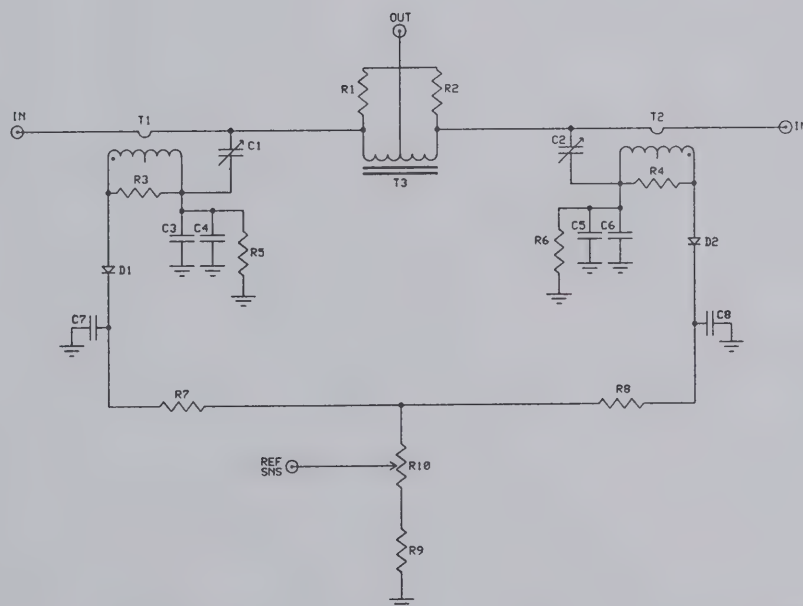


RESISTANCE VALUES ARE IN OHMS
CAPACITANCE VALUES ARE IN MICROFARADS
UNLESS OTHERWISE SPECIFIED

PROJECT NO. ALS-500M	PART NO. XXX-XXXX	NOTATION Ø	SHEET 1 OF 3
DESCRIPTION RF AMPLIFIER FOR AMERITRON SOLID STATE AMPLIFIER			
DATE	REVISED	REV. NUMBER AM400A4	DESIGNED BY R. HANEY

Combiner Board Parts List

Designator	Description	Part Number
C1,2	Capacitor, Trimmer, 500V, 3-12 pF	204-0150
C7,8	Capacitor, Ceramic Disc, 50v, .01 uF	200-0416
C9	Capacitor, Monolythic, 50v, .33 uF	205-2233
C3,6	Not used	
C4,5	Capacitor, DM15, 500 pF	208-5691
D1,2	Diode, 1N34A	300-0346
R1,2	Resistor, 3 watt, 100 ohm	103-2100
R10	Resistor, Trimpot, 2.5k	104-2520
R3,4	Resistor, 1/2 watt, 100 ohm	101-2100
R5,6	Resistor, 1/2 watt, 4.7k ohm	101-3470
R7,8	Resistor, Film, 1/4 watt, 2.2k	100-3220
R9	Resistor, 1/4 watt, 2.7k ohm	100-3270
T1,2	Pickup Transformer	10-14136
T3	Combiner Transformer	11-0500-4
W1,2,T1,T2	Terminal PC Board Posts	720-2670

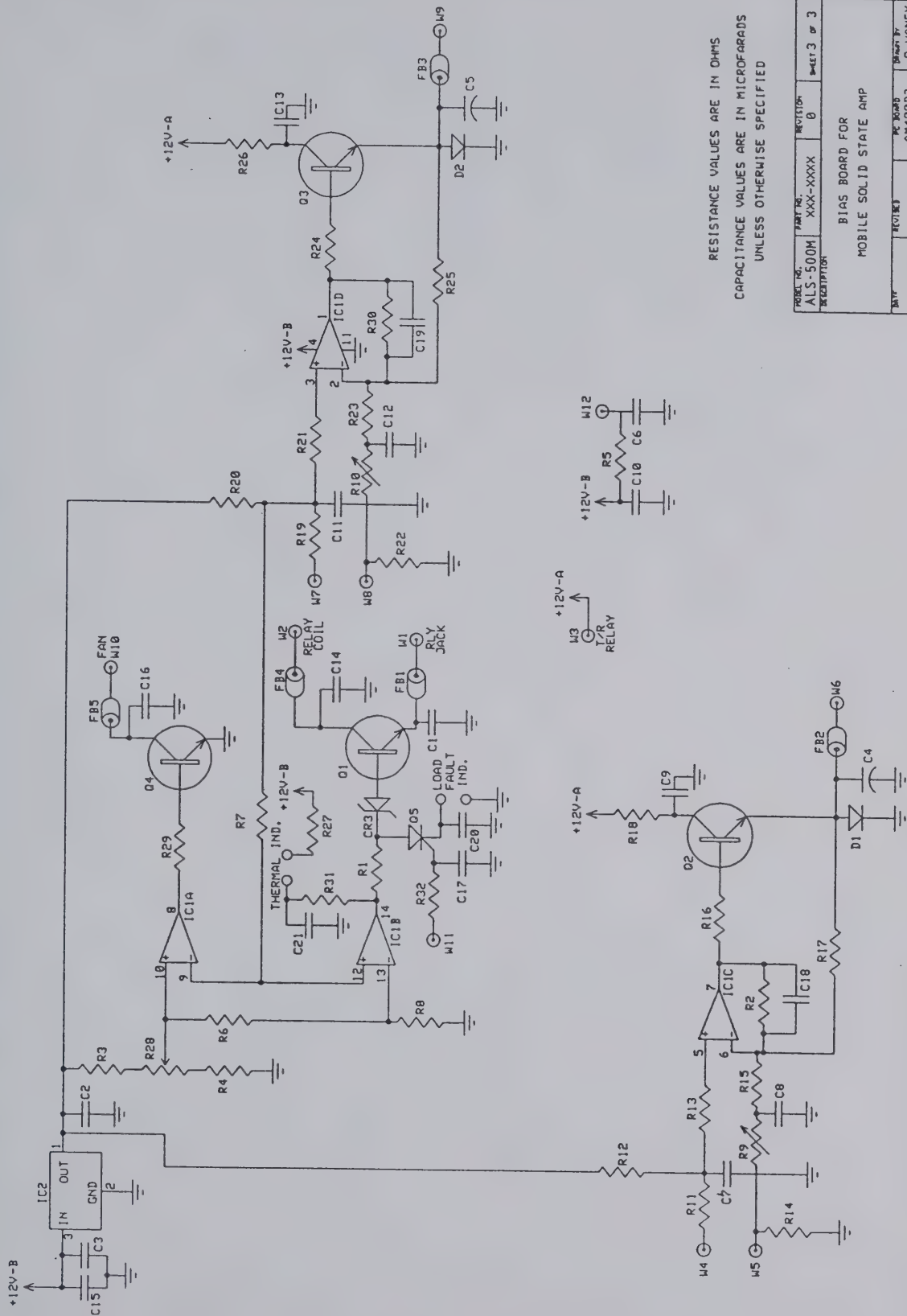


RESISTANCE VALUES ARE IN OHMS
CAPACITANCE VALUES ARE IN MICROFARADS
UNLESS OTHERWISE SPECIFIED

MODEL NO.	ALS-500M	PART NO.	XXX-XXXX	REVISION	0	SHEET 2 OF 3
DESCRIPTION	COMBINER BOARD FOR AMERITRON MOBILE SOLID STATE AMPLIFIER					
DATE	PC BOARD		DRAWN BY		P. HANEY	

Bias Board Parts List

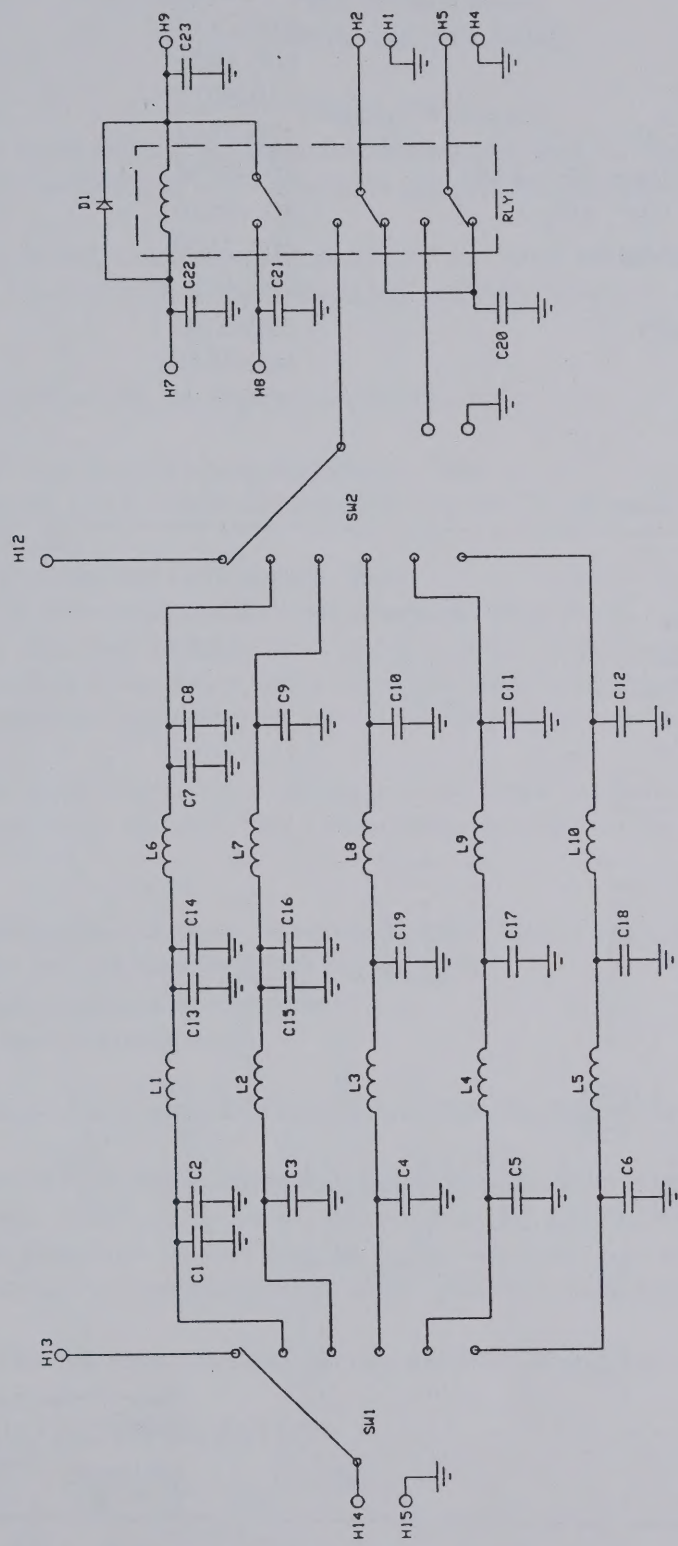
Designator	Description	Part Number
C1,6,7,8,9,10,11, 12,13,14,15,16,17, 18,19,20,21, C2,3,4,5	Capacitor, Ceramic Disc, 50v, .1 uF	200-0754
D1,2	Capacitor, Tantalum, 50v, .47 uF	203-0530
D3	Diode, 1N4007	300-0266
FB1,2,3,4,5	Diode, Zener, 1N4734	301-4734
For IC1	Bead, Ferrite, #43	412-1599
IC1	Socket, 14 pin	625-0014
IC2	LM324N	311-0324
J101,102	Regulator, 78L12AC, 12 V	307-0012
PCB	Header, 8 pin	612-0108
Q1,2,3,4	PC Board	862-0500-1
Q5	Transistor, MJF-3055	305-3055
R1,16,17,24,25,29	Transistor, 2N6564	321-6564
R2,30	Resistor, 1/4 watt, 470 ohm	100-2470
R3	Resistor, 1/4 watt, 22k	100-4220
R4,7	Resistor, 1/4 watt, 2.2k	100-4330
R5,11,14,19,22	Resistor, 1/4 watt, 2.2k	100-3220
R6	Resistor, 1/4 watt, 10 Ohm	100-1100
R8	Resistor, 1/4 watt, 4.7k	100-3470
R9,10,28	Resistor, 1/4 watt, 56k	100-4560
R12,20	Trim pot, 2.5k	104-2520
R13,15,21,23,31,32	Resistor, 1/4 watt, 10k	100-4100
R18,26	Resistor, 1/4 watt, 1k	100-3100
R27	Resistor, 3 watt, 1.5 ohm	103-3400
R33	Resistor, 1/4 watt, 100 ohm	100-2100
	Resistor, 1/4 watt, 3.3M	100-6330



Output Filter Board

Designator	Description	Part Number
C301,308	not used	
C302,307	*Capacitor, DM-19, 1000v, 180 pF	208-6181
C303,309	*Capacitor, DM-19, 1000v, 270 pF	208-6271
C304,310	*Capacitor, DM-19, 1000v, 360 pF	208-6361
C305,311,319	*Capacitor, DM-19, 1000v, 680 pF	208-6681
C306,312,317	*Capacitor, DM-19, 1000v, 1500 pF	208-6152
C313,314	*Capacitor, DM-19, 1000v, 160 pF*	208-6161
C315,316	*Capacitor, DM-19, 1000v, 220 pF*	208-6221
C318	*Capacitor, DM-19, 1000v, 2700 pF*	208-6272
C320	Capacitor, Mica, 500 v, 27 pF	208-5270
C321-323	Capacitor, Ceramic Disc, 50 v, .01 uF	200-0416
L301,306	Coil, Air Wound, 1/2" ID, 8.5 pass	10-13850
L302,307	Coil, Toroid, 8 pass	10-14168
L303,308	Coil, Toroid, 10 pass	10-14161
L304,309	Coil, Toroid, 14 pass	10-14214
L305,310	Coil, Toroid, 22 pass	10-14222
RLY301	Relay, 3PDT 12 Vdc coil	408-6140
SW301	Bandswitch	500-6448

* Critical Components

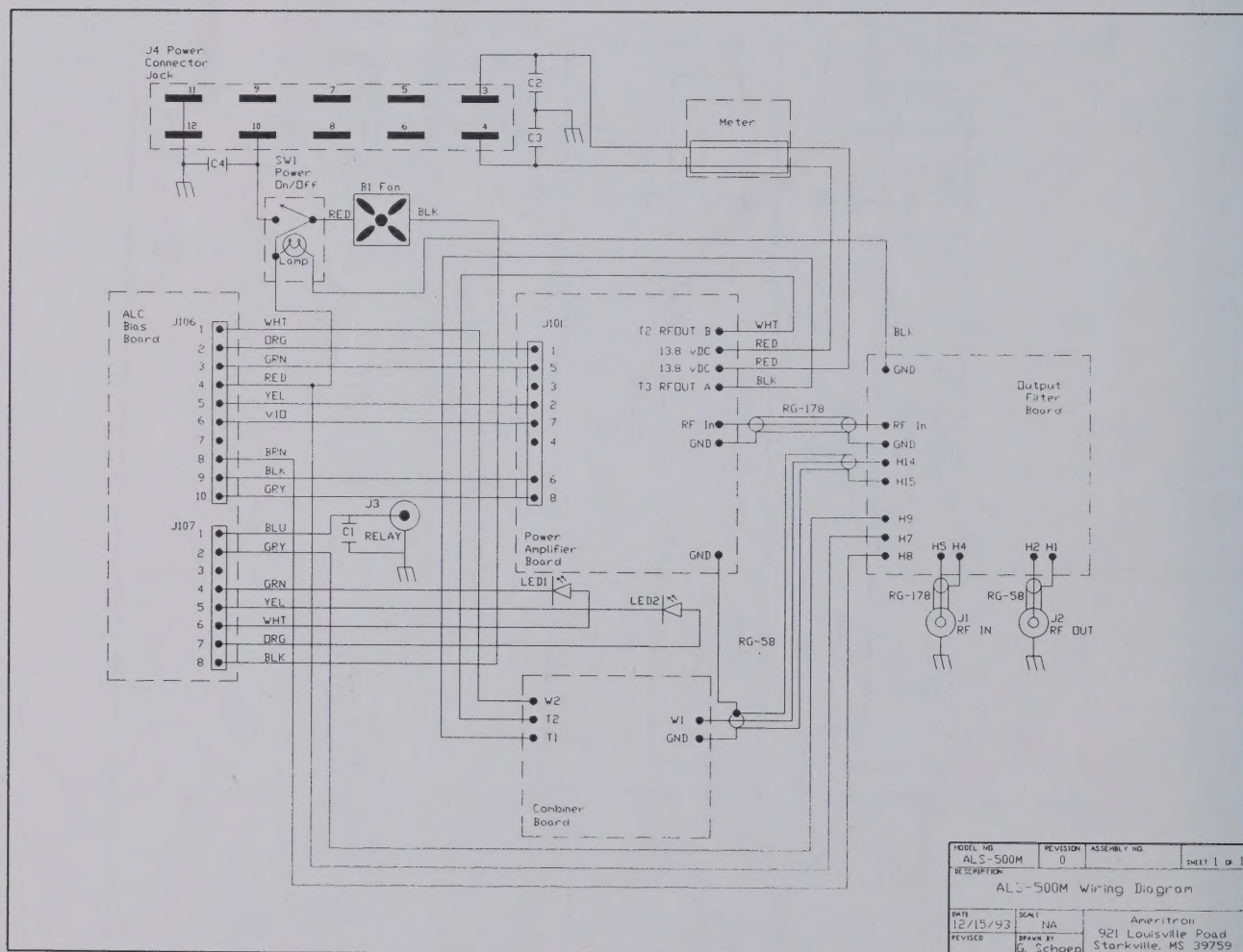


RESISTANCE VALUES ARE IN OHMS
CAPACITANCE VALUES ARE IN MICROFARADS
UNLESS OTHERWISE SPECIFIED

FIG. NO.	PART NO.	SECTION	SHEET 4 OF 5
ALS-500M	XXX-XXXX	0	
DESCRIPTION			
OUTPUT FILTER BOARD			
FOR AMERITRON			
SOLID STATE AMPLIFIER			
DATE	REVISED	BY	APPROVED
		R. HANEY	

ALS-500M Chassis Components

Designator	Description	Part Number
J1, 2	Jack, SO-239	610-2126
J3	Jack, RCA	600-1225
J4	Jack, Power	610-5012
B1	Fan, 12 volt, muffin, 3"	410-3512
C1,2	Capacitor, Ceramic Disc, 25v, .1 uF	200-0754
C3,4	Capacitor, Ceramic Disc, 25v, .01 uF	200-0416
Meter	100 Amp Induction Meter	400-2500
LED1	MV6753 Red LED	320-0522-1
LED2	MV6753 Yellow LED	320-0300
P1	Plug, Power for J4	610-6012





116 Willow Road
Starkville, MS 39762

Limited Warranty

Ameritron warrants to the original purchaser that this product shall be free from defects in material (except tubes and RF output transistors) or workmanship for one year from the date of original purchase.

During the warranty period, Ameritron or an authorized Ameritron service facility will provide free of charge both parts (except tubes and RF output transistors) and labor necessary to correct defects in material or workmanship.

To obtain such warranty service, the original purchaser must:

- (1) Complete and send in the Warranty Registration Card.
- (2) Notify Ameritron or its nearest authorized service facility, as soon as possible after discovery of a possible defect, of:
 - (a) The model number and serial number, if any;
 - (b) The identity of the seller and the approximate date of purchase;
 - (c) A detailed description of the problem, including details on the equipment.
- (3) Deliver the product to the Ameritron or the nearest authorized service facility, or ship the same in its original container or equivalent, fully insured and shipping charges prepaid.

Correct maintenance, repair and use are important to obtain proper performance from this product. Therefore, carefully read the Instruction Manual. This warranty does not apply to any defect that Ameritron determines is due to:

- (1) Improper maintenance or repair, including the installation of parts or accessories that do not conform to the quality and specifications of the original parts.
- (2) Misuse, abuse, neglect or improper installation.
- (3) Accidental or intentional damage.

All implied warranties, if any, terminate one (1) year from the date of the original purchase.

The foregoing constitutes Ameritron's entire obligation with respect to this product, and the original purchaser and any user or owner shall have no remedy and no claim for incidental or consequential damages. Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damage, so the above limitation and exclusion may not apply to you.

This warranty gives specific legal rights and you may also have other rights which vary from state to state.

PLEASE RECORD THIS INFORMATION:

Model ALS-500M Serial No. 11162
Date of Purchase 8-15-94
Purchased From ROSS DISTRIBUTING
Warranty Card Mailed On 8-16-94

